REMARKS

Reconsideration of this application is requested. This response after final rejection should be entered because it does not amend the claims. It simply rebuts the rejection of those claims.

The rejection of claims 1 to 3, 9 and 13 to 15 as being obvious over Matthews et al (US Patent 5,986,234 - Matthews) is traversed.

Independent claims 1 and 9 define laser cleaning methods which use a database to select the proper laser power level for a machine component to be cleaned. Claims 1 and 9 recite a database of laser power levels for various machine components wherein the database is used to set the laser power level. Claim 9 further requires that feedback data be obtained that is compared to machine component data to control the laser that is ablating the machine surface. Dependent claim 2 requires a "database with the machine component surface data and corresponding laser power related data for ablating surface contaminants or coatings from the surface" and data from this database is compared to "feedback data" from the laser ablation process.

Matthews discloses a laser cleaning process that monitors the surface being cleaned for a change in surface reflectivity. There is no teaching in Matthews of creating a database that stores machine component information with corresponding information on laser power level or machine surface condition data, or of interrogating a database to select the power level and/or surface condition data corresponding to the machine component being cleaned. Accordingly, Matthews does not disclose or suggest the method recited in the rejected claims.

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Matthews does not disclose a controller for a laser cleaning system that selects a laser power level, interrogates a database to select a power level, or accessing data from a database regarding a machine surface to laser ablation progress. The term "database" does not appear in Matthews. Matthews does not disclose a database with information regarding various machine components and corresponding laser power data. There is no suggestion in Matthews that the control unit 78 accesses any database, especially one that has laser power level information for particular components to be cleaned.

Matthews (col. 12, lns. 6-10) describes adjusting the laser feedback system to stop laser cleaning when reflectivity increases substantially. This adjustment presumably is done manually. The feedback system disclosed in Matthews is "adjusted" to terminate laser cleaning when the reflectivity of the surface "increases substantially and represents the characteristics of the underlying cleaned substrate and not the surface coating." Matthews, col. 12, lns. 5-9. There is no suggestion in Matthews of selecting one of a plurality of reflectivity set points stored in a database.

The elements of the rejected claims that are not disclosed by Matthews include (without limitation):

- Programming a controller coupled to a laser source for controlling the laser source of the laser beam to perform laser ablation, wherein said controller accesses a database having corresponding laser power data. (Claims 1-3 and 9). In contrast, Matthews does not teach how to select a power level for laser cleaning of a surface. There is no suggestion that a data base provided power levels for various machine components to a controller.

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- Determining a laser power level corresponding to the machine component by interrogating the database to identify the corresponding laser power data for the machine component (Claims 1-3 and 9). Matthews does not disclose any computer controlled technique for setting a laser power level before ablation.

- Directing the laser beam at the machine component surface for vaporizing surface contaminants and coatings deposited on said surface without changing base material properties of said machine component, wherein the laser beam is at the power level corresponding to the machine component (Claims 1-3 and 9)

- Comparing the collected vaporization data and the machine component data to determine whether to cease vaporization of the surface by the laser beam. (Claims 2 and 9). Matthews discloses comparing laser reflection data with data that "represents the characteristics of the underlying cleaned substrate and not the surface coating". There is no teaching in Matthews to maintain a database of machine component data that correlates components to data that can be compared to a laser feedback signal.

- Coupling the controller of the laser to a computer system having a processor and the database, wherein the database is loaded with the machine component data and the corresponding laser power related data for ablating surface contaminants or coatings from the surface. (Claim 2).
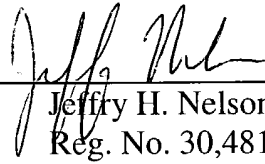
All claims are in good condition for allowance. If any small matter remains outstanding, the Examiner is requested to telephone the undersigned. Prompt reconsideration and allowance of this application is requested.

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NAIR et al.
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Respectfully submitted,

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